Section 7 Contents

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Section 7 State Water Plan - Cedar/Beaver Basin

Regulation/Institutional Considerations

7.1 Introduction

This section presents a brief discussion of the several regulations now in place to protect and manage the water resources of the Cedar/Beaver Basin. It also discusses the major related problems and needs.

The Department of Environmental Quality and the Division of Water Rights are the primary state agencies responsible for water regulation. Water quality is regulated by the Division of Drinking Water and the Division of Water Quality in the Department of Environmental Quality. These agencies operate in accordance with the Utah Safe Drinking Water Act and the Utah Water Quality Act. Water quality is also regulated by various federal regulations. The Division of Water Rights, Department of Natural Resources, is responsible for water allocation and distribution according to state water law. The detailed functions of these agencies are described in the Utah State Water Plan, sections 7, 11 and 12. The Division of Water Resources regulates the cloud seeding program as described in Section 9 and is responsible for state water planning.

7.2 Setting

Water regulation is generally carried out under the direction of state agencies, although some federal agencies become involved when it includes their mandates. Local public and private institutions and entities usually manage and operate the various water systems at the basin level.

7.2.1 Current Regulation

Water law, based on the doctrine of prior appropriation, is administered by the Utah State Engineer. The Division of Water Rights has a regional engineer in Cedar City who carries out the day-to-day activities.

The District Court of the Fifth Judicial District in Iron County has ordered the adjudication of the water rights of all the several parts of the Cedar/Beaver Basin. These "Proposed Determination of Water Rights" are found as follows: Escalante Valley Division; Books 1-5 covering Enterprise, Beryl, Milford and Millard County areas, including a supplement; Cedar City Valley Division; Books 1-4, including a supplement; Parowan Valley Division; Books 1-3, including a supplement; and Beaver River Division; Books 1-4, including a supplement.

The quality of water is determined under standards for allowable contaminant levels according to the use designations. These designations and the standards are published by the Utah

■ Consideration of water rights, water quality and the environment are prerequisite to the management of the water resources. Regulations are required to avoid or resolve conflicts as they arise and for protection of the water user.

Department of Environmental Quality in the "Standards of Quality for Waters of the State." The Utah Water Quality Board implements the regulations, policies and activities necessary to control water quality. These are carried out by the staff of the Division of Water Quality.

The Utah Safe Drinking Water Board is responsible for assuring a safe water supply for domestic culinary uses. They regulate any system defined as a public water supply. These may be publicly or privately owned. The Safe Drinking Water Board has adopted State of Utah Public Drinking Water Regulations to help assure pure drinking water. There is also a Drinking Water's Source Protection Program. This includes monitoring delivered drinking water quality as well as water source protection. These responsibilities are carried out by the staff of the Division of Drinking Water.

7.2.2 Existing Local Institutions and Organizations

Local organizations generally carry out the distribution of water under water rights and rules and regulations administered by the state engineer. These local institutions, entities and organizations have also completed most of the water development in Utah. Distribution systems along with local entities formed under specific enabling legislation are described below.[68]

Distribution Systems - The local distribution systems were created in response to a petition to the court or state engineer and are administered by the Division of Water Rights. An appointed "commissioner" is charged with distribution and/or measurement of surface and/or underground waters. Assessments are made to pay the commissioner and for other costs. Members in each system elect a board that represents them and conducts business as required. In this basin, the five systems are:

- Beaver River - Surface water
- Milford Area - Underground water
- Beryl-New Castle Area - Surface and underground water
- Parowan Valley - Surface and underground water
- Cedar Valley - Surface and underground water

Water Conservancy Districts - These are created under Title 17A-2-1401 of the *Utah Code Annotated*. They are established by the district court in response to a formal petition and are governed by a board of directors appointed by the county commission when the district consists of a single county. Directors for multicounty districts are appointed by the governor. Water conservancy districts have very broad powers. They include constructing and operating water systems, levying taxes and contracting with government entities. These districts include incorporated and unincorporated areas. The only district in the basin, Washington County Water Conservancy District, covers a large part of the Shoal Creek drainage, the Enterprise area and part of the Pinto Creek drainage.

Mutual Irrigation Companies - These are the most common water development and management entities in the basin. They may be either profit or non-profit; most are non-profit. They are formed under the corporation code. In general, stockholders are granted the right to a quantity of water proportional to the number of shares they hold and assessments are levied similarly. There are over 50 mutual irrigation companies in the Cedar/Beaver Basin.

Water Companies - These are entities, such as special service districts, formed to provide water to subscribers. Private water companies operated for profit are regulated by the Division of Public Utilities. There are over 15 water companies in the basin.

City Water Utilities - These are utilities operated by incorporated cities and towns to provide water to residents and subscribers. Municipalities can form corporations to deliver water inside of all or any part of a city boundary. Counties have the same authority in unincorporated areas. The *Utah Code Annotated* and local ordinances provide the legal framework for water operation. Local entities may pass ordinances regulating water use.

Water User Associations - The organizations are groups formed to deliver water for various purposes. They are often informal groups, but they can also be incorporated under Utah law. There are about 15 such groups in the basin.

Other - The National Park Service delivers water to the Cedar Breaks National Monument for culinary purposes. The Division of Parks and Recreation, Forest Service and Bureau of Land Management provide culinary water in the state parks, campgrounds and picnic areas. Also, individuals in isolated locations have private systems for domestic water purposes.

7.3 Policy Issues and Recommendations

There is one issue regarding water regulations and institutional considerations. It is groundwater management.

7.3.1 Groundwater Management

Issue - There is a need for coordinated groundwater management.

Discussion - The groundwater reservoirs are influenced by the inflow of surface water supplies, direct precipitation and infiltration from canals and irrigation. Surface water flows and subsurface inflows from the mountains are the primary sources of recharge. The major withdrawals are by individuals for irrigated cropland. Other withdrawals are by private companies and municipalities for municipal and industrial uses.

All of the groundwater reservoirs are well developed and are near to or have exceeded optimum utilization. Existing conditions are already causing excessive depletion, ground subsidence and intrusion of contaminated water into areas of high quality. If the present groundwater level trends continue, more intensive management will be required to insure safe yields from the aquifers are not exceeded.

The quality of the groundwater reservoirs is being reduced because of the recirculation of irrigation water and mining in localized areas. This increases the salinity level which in turn can limit potential uses. As irrigation water becomes more saline, more salt is deposited in the soil requiring additional leaching. This requires more water to mature crops. Water used for culinary purposes will require treatment to meet water quality standards.

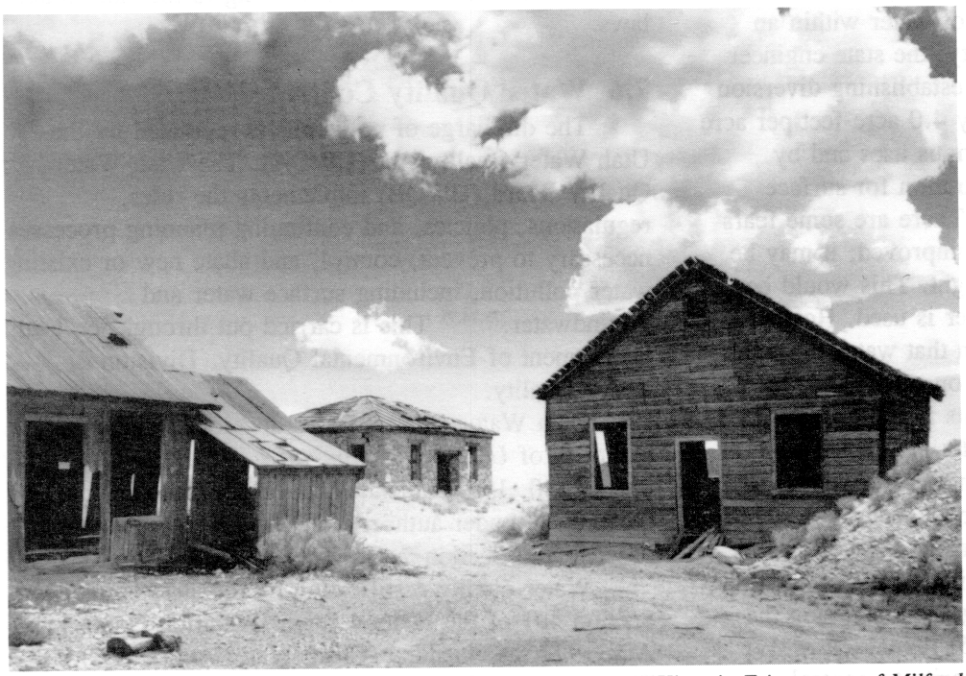
One area of concern is the source of high quality water used to supply the municipal and industrial needs of Cedar City. Most of the city's wells are located in the southwestern part of the groundwater basin where there is high quality water. The groundwater quality deteriorates toward the middle of the valley. If the high quality water is pumped to create a zone of depression, low quality water may infiltrate and contaminate the culinary supplies.

Groundwater management plans for individual basins would optimize the use of this resource. Plans should include maps showing the location of various levels of water quality, depth to the principal aquifers and recharge areas. Pumping rates and well locations should also be included. Local water user organizations could be used in an advisory capacity. See the issue for groundwater monitoring in Section 12.3.1.

Recommendation - The Division of Water Rights should institute groundwater management plans in each of the basins. Local entities and individuals should assist as requested.

7.4 Problems and Needs

Problems are developing in some areas where summer homes are becoming popular. In these areas, potable water is generally obtained by drilling individual wells or maybe one well serving two or three homes. Sewage disposal in these same areas is through septic tanks. Current zoning and lot sizes sometimes allow interference between septic tank disposal fields and wells for drinking water. There is a need to provide controls so the wells are not contaminated by the wastes in the immediate area.



Historic Frisco west of Milford

7.5 Water Rights Regulation

The state engineer is responsible for determining whether there is unappropriated water and if additional applications will be granted. This is accomplished through data analysis and consideration of public input.

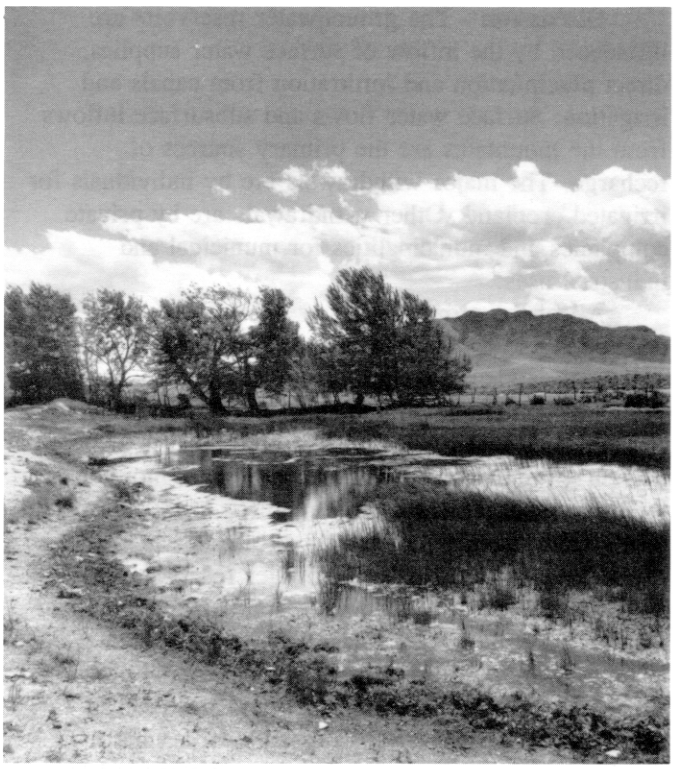
Before approving an application to appropriate

water, the state engineer must find: (1) There is unappropriated water in the proposed source, (2) the proposed use will not impair existing rights, (3) the proposed plan is physically and economically feasible, (4) the applicant has the financial ability to complete the proposed works, and (5) the application was filed in good faith and not for the purpose of speculation or monopoly. The state engineer shall withhold action on or reject an application if he determines it will interfere with a more beneficial use of water or prove detrimental to the public welfare or the natural resource environment.

Utah water law allows changes in the point of diversion, place of use, and/or nature of use of an existing right. To accomplish such a change, the water user must file a change application with the state engineer. The approval or rejection of a change application depends largely on whether or not the proposed change will impair other vested rights; however, compensation can be made, or conflicting rights may be acquired. Perfect water rights are considered real property. Pending application and stock in mutual water companies are considered personal property. As such, they can be bought and sold in the open market.

In the appropriation process, the state engineer analyzes the available data and, in most cases, conducts a public meeting to present findings and receive input before adopting a final policy regarding future appropriation and administration of water within an area. Through regulatory authority, the state engineer influences water management by establishing diversion limitations (duty of water, usually 4.0 acre-feet per acre for irrigation in this area) for various uses and by setting policies on water administration for surface water and groundwater supplies. There are some fears that when irrigation efficiency is improved, it may be possible to lose part of a water right. This would be particularly true when groundwater is used. However, there is always the right to file on that water through the appropriation process for use on other land.

The Division of Water Rights is responsible for a number of functions which include: (1) Distribution of water in accordance with established water rights, (2) adjudication of water rights under an order of a state district court, (3) approval of plans and specifications for the construction of dams and inspection of existing structures for safety, (4) licensing and regulating the activities of water well drillers, (5) regulation of geothermal development, (6) authority to control streamflow and reservoir storage or releases during a flooding emergency, and (7) regulation of stream channel alteration activities. In addition, the state engineer works with federal agencies on water rights as needed. These are handled according to the state water laws.



Antelope Springs

7.6 Water Quality Control

The discharge of pollutants is regulated by the Utah Water Quality Act (UWQA). The Utah Water Quality Board (UWQB) implements the rules, regulations, policies, and continuing planning processes necessary to prevent, control, and abate new or existing water pollution, including surface water and groundwater.[73,74,75] This is carried out through the Utah Department of Environmental Quality, Division of Water Quality.

Utah Water Quality Rules developed under authority of *Utah Code Annotated (UCA)* 26-11-1 through 20, 1953, amended, have been implemented by the UWQB under authority of the UWQA. They are described in Section 7 of the *State Water Plan*.

Water quality certification by the state is under Section 401 of the Federal Water Pollution Control Act, 1977, as amended (Clean Water Act, CWA).[30] This act states that any applicant for a federal license or permit to conduct any activity which may result in discharge into waters, and/or adjacent wetlands of the

United States, shall provide the licensing or permitting agency a certification from the state in which the discharge originates or will originate. These activities include, but are not limited to, the construction or operation of the discharging facilities. Any discharges will comply with applicable state water quality standards and the applicable provisions of the Clean Water Act.

In addition, Ground Water Protection Regulations[4] were adopted and are now enforced by the UWQB. These regulations are the building block for a formal program to protect the present and probable future beneficial uses of groundwater in Utah.

The three main regulatory concepts are: (1) To prohibit the reduction of groundwater quality, (2) prevent groundwater contamination rather than clean up after the fact, and (3) provide protection in all areas based on the different existing groundwater quality. The five significant administrative components are: (1) Groundwater quality standards, (2) ground-classification, (3) groundwater protection levels, (4) aquifer classification procedures, and (5) groundwater discharge permit system. Statutory authority for the regulations is contained in Chapter 19-5 of the *Utah Code Annotated*, authorizing the Water Quality Board.[68]

These regulations contain a groundwater discharge permitting system which will provide the basic means for controlling activities that may effect groundwater quality. A groundwater discharge permit will be required if, under normal circumstances, there may be a release either directly or indirectly to groundwater. Owners of existing facilities will not be obligated to apply for a groundwater discharge permit immediately. An existing facility is defined as a facility or activity that was in operation or under construction before February 10, 1990. Owners of these facilities should have notified the executive secretary of the UWQB of the nature and location of their discharge.

The regulations contain provisions for a permit by rule for certain facilities or activities. Many operations which pose little or no threat to groundwater quality or are already adequately regulated by other agencies, are automatically extended a permit and need not go through the formal permitting requirements. Therefore, facilities qualifying according to the provisions of Section R448-6-6.2 will administratively be extended a groundwater discharge permit (Permit by Rule). However, these operations are not exempt from the applicable class TDS limits or groundwater quality standards.

The authority for CWA, Section 401 certification, commonly known as 401 Water Quality Certification, is delegated to and implemented administratively through the Utah Water Quality Board by the Division of Water Quality. The Clean Water Act provides the focus for and the delegation of responsibility and authority to the U.S. Environmental Protection agency (EPA) to develop and implement its provisions. Whether or not EPA administers a CWA program directly within a state or indirectly by delegation to a state, EPA retains the oversight role necessary to insure compliance with all rules, regulations, and policies.

Local communities may want to set up and carry out a "Local Aquifer Protection Management Plan." If so, they can contact the Division of Water Quality for information.

7.7 Drinking Water Regulation

The Safe Drinking Water Board is empowered to adopt and enforce rules establishing standards prescribing maximum contaminant levels in public water systems. This authority is given by Title 26, Chapter 12, Section 5 of the *Utah Code Annotated, 1953(5)*.[68] The rules and regulations setting drinking water standards were adopted after public hearings.[54] These standards govern bacteriologic quality, inorganic chemical quality, radiologic quality, organic chemical quality and turbidity. Standards are also set for monitoring frequency and procedures.

The Safe Drinking Water Board, through the Division of Drinking Water, also operates under the federal Safe Drinking Water Act. This act sets federal drinking water standards and regulations. The Safe Drinking Water Act is up for reauthorization. One of the amendments being considered is to authorize a new revolving loan program to provide money to states to construct drinking water treatment plants. It also relaxes some Environmental Protection Agency requirements for setting standards for drinking water and provides more flexibility for small and rural systems.

The Division of Drinking Water serves as staff for the Safe Drinking Water Board to assure compliance with the standards. At the local level, considerable reliance is placed on public water supply operators. Those operating systems serving over 800 people are currently required to have state certification. Water systems serving fewer than 800 people will only need to have a certified operator if the water system has some sort of treatment facility in place. The systems serving over 800 people are listed in Table 7-1.

Table 7-1[19]
CULINARY WATER SYSTEMS SERVING OVER 800 PEOPLE

System	People Served
Beaver County	
Beaver	1,998
Milford	1,107
Iron County	
Cedar City	13,443
Enoch	1,947
Parowan	1,873
Washington County	
Enterprise	936

Source: U.S. Census for 1990. These data may vary from information furnished to the Utah State Engineer.

Table 7-2
HIGH HAZARD RESERVOIR DAMS

Name	Location	Height (ft.)	Capacity (ac.-ft.)
Beaver County			
Manderfield[a]	Indian Creek	31	350
Three Creeks	Beaver River	91	2,029
Kents Lake No. 2 (middle)	Birch Creek	30	900
Kents Lake No. 1 (upper)	Birch Creek	16	300[b]
Rocky Ford[c]	Beaver River	68	1,000
Iron County			
Yankee Meadow	Bowery Creek	34	1,200
Greens Lake No. 3	Un-named	37	54[d]
Red Creek	Red Creek	76	1,360
Newcastle	Pinto Creek	83	5,290
Greens Lake No. 4	Un-named	11	29[d]
Greens Lake No. 2	Un-named		28[d]
Washington County			
Enterprise (upper)	Little Pine Cr.	73	9,850
Enterprise (lower)	Little Pine Cr.	56	1,672

Source: Division of Water Rights.
[a] aka Beaver Dam #1.
[b] Includes conservation pool.
[c] aka Minersville Reservoir
[d] Floodwater storage.

7.8 Dam Safety

All dams creating reservoirs in Utah which store water where failure may cause loss of life are assigned a hazard rating. Hazard ratings (the potential effects of failure) are either high, moderate, or low, thus determining the frequency of the inspection. High-hazard dams are inspected yearly; moderate, every other year; and low, every fifth year.

Table 7-2 shows the reservoir dams currently classified as high hazard in the Cedar/Beaver Basin. Following an inspection, the state engineer may suggest maintenance needs and requests specific repairs. He may declare the dam unsafe and order it breached or drained. Efforts are always made to work with dam owners to schedule necessary actions.

The state engineer has design standards which are outlined in a publication entitled *Rules and Regulations Governing Dam Safety in Utah*.[24] Plans and specifications must be consistent with these standards. Dam safety personnel monitor construction to insure compliance with plans, specifications and design reports. Any problems are resolved before final approval is given.

The Dam Safety Act requires all high hazard dams to pass the Probable Maximum Precipitation (PMP) flood. The assessment also includes the ability of the dam to withstand earthquakes. Flood control structures, such as Greens Lake No. 2 debris basin, are exempt from the minimum standards. ■ ■